

REMARKS

The Office Action dated April 24, 2006, has been received and carefully noted. The above amendments and the following remarks are being submitted as a full and complete response thereto.

Entry of this Amendment is proper under 37 C.F.R. §1.116 since this Amendment: (a) places the application in condition for allowance for reasons discussed herein; (b) does not raise any new issue regarding further search and/or consideration since the Amendment amplifies issues previously discussed throughout prosecution; (c) does not present any additional claims without canceling a corresponding number of finally-rejected claims; and (d) places the application in better form for appeal, should an appeal be necessary. Entry of the Amendment is thus respectfully requested.

By this amendment, no claims have been amended. Claims 4, 5, and 6 are presented in their correct form to correct a typographical error in the previous Response. Thus, Claims 1-7 are currently pending in the application and subject to examination.

Objections to the Claims

Claims 4, 5, and 6 are objected to as containing informalities. Specifically, Claims 4, 5, and 6 are objected to as depending from Claim 1, rather than from the proper claims. The Applicant submits that these informalities are due to a typographical error in the previous response, and that no amendment was intended. Accordingly, the Applicant presents Claims 4, 5, and 6 reflecting proper dependencies, however, the claims are presented as "Original" and "Previously Presented" where applicable, because the

dependencies of Claims 4, 5, and 6 were never properly amended. Withdrawal of the objection is respectfully requested.

Rejection Under 35 U.S.C. § 103(a)

Claims 1-2 and 5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Schuhbauer et al. (U.S. Patent No. 5,933,312, hereinafter "Schuhbauer") in view of Murata et al. (U.S. Patent No. 5,953,198, hereinafter "Murata") and Hakala et al. (U.S. Patent No. 5,847,533, hereinafter "Hakala"). Claims 3, 4, 6, and 7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Schuhbauer in view of Murata and Hakala, and further in view of Oyabe et al. (U.S. Patent No. 5,811,996, hereinafter "Oyabe"). The Applicant respectfully traverses these rejections.

Claim 1 recites an excitation control circuit comprising a driving circuit for driving a coil of a solenoid in response to a pulse signal supplied from an external device, a counter-electromotive force absorbing circuit, inserted in a path of a return current of the coil, for absorbing counter-electromotive force produced by the coil, a return current circuit connected in parallel to the counter-electromotive force absorbing circuit, and a control circuit for outputting a pulse signal for intermittently bypassing the return current through the return current circuit while the return current attenuates.

Applicants submit that the applied prior art, alone or in combination, fails to teach or suggest all the elements of Claim 1. Specifically, the applied prior art fails to teach or suggest at least, "a control circuit for outputting a pulse signal for intermittently bypassing the return current through the return current circuit while the return current attenuates."

The Office Action admits that Schuhbauer and Murata fail to teach at least this element, and cites Hakala as curing these deficiencies.

The Examiner cites the braking resistors 58 and 60, and the transistor 62 as corresponding to the return current circuit of the present invention (see Office Action, page 4). However, the braking resistor 58 is a normal braking resistor used to consume the returning power. During normal operation, the control unit 46 controls transistor 62 in such a way that the power generated by the motor is at least partially consumed by the braking resistors 58, 60, and 62. In other words, normal braking control is performed through elements 58, 60, and 62 (see Hakala, col. 2, lines 48-56).

Further, it is possible to determine which of resistors 58 and 60 is to be active as the resistor connected between circuit conductors 22 and 24 by using the switch 66 provided parallel to the braking resistor 60, or the switch 64 provided parallel to the braking resistor 58 and the transistor 62 (see Hakala, col. 2, line 64, to col. 3, line 5).

As such, Hakala fails to teach or suggest “a control circuit for outputting a pulse signal for intermittently bypassing the return current through the return current circuit while the return current attenuates,” as recited in Claim 1.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. M.P.E.P. § 2143.03. For at least the reasons provided above, Applicants submit that Schuhbauer in view of Murata and Hakala, alone or in any combination thereof, do not teach or suggest all the elements of Claim 1.

Further, the Applicant submits that Hakala is non-analogous art and is not combinable with Schuhbauer. The present invention is directed to an excitation control circuit for intermittently bypassing a return circuit. Schuhbauer is directed to a free-wheel circuit. However, Hakala is directed to a procedure and apparatus for braking a synchronous motor, which is completely different and non-analogous to the art of excitation control circuits. It is respectfully submitted that a person skilled in the art of excitation control circuit devices would not have combined Hakala with Schuhbauer and Murata to yield the present invention as recited in Claim 1.

Accordingly, the Applicant submits that Claim 1 is allowable over the applied prior art.

Oyabe is cited in the rejection of Claims 3, 4, 6, and 7 as disclosing a counter-electromotive force absorbing circuit with a transistor and control system. However, the Applicants note that Oyabe fails to teach or disclose a "a control circuit for outputting a pulse signal for intermittently bypassing the return current through the return current circuit while the return current attenuates," as recited in Claim 1. In other words, Oyabe fails to overcome or otherwise address the deficiencies of Schuhbauer, Murata, and Hakala with regards to Claims 3, 4, 6, and 7.

As Claims 2-7 depend from independent Claim 1, the Applicant respectfully submits that these dependent claims be deemed allowable for at least the same reasons Claim 1 is allowable, as well as for the additional subject matter recited therein.

Additionally, under U.S. patent practice, the U.S. Patent and Trademark Office has the burden under 35 U.S.C. §103 to establish a *prima facie* case of obviousness. In re

Fine, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Both the case law of the Federal Circuit and the U.S. Patent and Trademark Office itself have made clear that where a modification must be made to the prior art to reject or invalidate a claim under 35 U.S.C. §103, there must be a showing of proper motivation to do so. The mere fact that a prior art reference could arguably be modified to meet the claim is insufficient to establish obviousness. The U.S. Patent and Trademark Office can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. Id. In order to establish obviousness, there must be a suggestion or motivation in the reference to do so. See also In re Gordon, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) (prior art could not be turned upside down without motivation to do so); In re Rouffet, 149 F.3d 1350 (Fed. Cir. 1998); In re Dembiczak, 175 F.3d 994 (Fed. Cir. 1999); In re Lee, 277 F.3d 1338 (Fed. Cir. 2002).

The Office Action restates the advantages of the present invention to justify the combination of references. There is, however, nothing in the applied references to evidence the desirability of these advantages in the disclosed structure.

Thus, the Applicant submits that a *prima facie* case of obviousness has not been established. Accordingly, the Applicant respectfully requests withdrawal of the rejections.

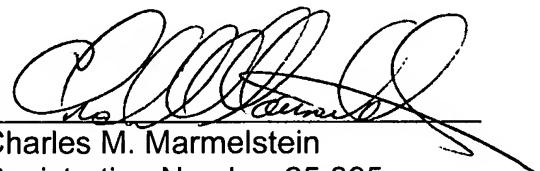
Conclusion

In view of the foregoing, reconsideration of the application, withdrawal of the outstanding objections and rejections, allowance of Claims 1-7, and the prompt issuance of a Notice of Allowability are respectfully solicited. If the Examiner believes that anything

further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the Applicants' undersigned representative at the telephone number listed below to schedule a personal or telephone interview to discuss any remaining issues.

In the event that this paper is not being timely filed, the Applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to Counsel's Deposit Account Number 01-2300, referencing Docket Number 107439-00091.

Respectfully submitted,



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